

Application No.: 10/780,747
Amendment under 37 CFR 1.111
Reply to Office Action dated May 7, 2007
July 25, 2007

REMARKS

By this amendment, claims 14 and 16 have been cancelled and claims 1-2, and 4-9 have been amended in the application. Currently, claims 1-13, 15 and 17-18 are pending in the application.

Claims 1-9 were rejected under 35 USC 103(a) as being obvious over Shimada (U.S. Patent Application Publication No. 2002/0152025) in view of Hoisko (U.S. Patent Application Publication No. 2002/0111737). Also, claims 10-18 were rejected under 35 USC 103(a) as being obvious over Shimada and Hoisko, further in view of Ihara et al. (U.S. Patent No. 5,552,990).

These rejections are respectfully traversed in view of the amendments to the claims and the remarks below.

The present invention relates to a mobile terminal device having a route guiding function and a route guiding method utilizing the mobile terminal device (see page 1, lines 4-6 of the specification).

As shown in Fig. 3, the mobile phone 1 includes a mobile phone function block 10, a GPS module 11, a sound source module 12, a geomagnetic bearing sensor 13, a controller 14, a control program

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(ROM) 15, and a RAM 16 (see page 15, lines 15-20 of the specification).

The controller 14 controls respective portions of the mobile phone 1 based on a control program. In this case, when the latitude/longitude of the current position are measured by the mobile phone 1, this controller 14 calculates such latitude/longitude based on the position measuring data given from the GPS module 11. An angle of the bearing to which the mobile phone 1 is directed (azimuth angle: an angle to a reference bearing (e.g., North bearing)) is calculated by the controller 14 based on the detecting signal supplied from the geomagnetic bearing sensor 13.

The control program, current position icon data indicating the current position on the map and target position icon data indicating the position of the destination, current bearing icon data indicating the direction of the mobile phone 1 (having a display mode by an arrow), melody data to produce various melodies played under predetermined conditions, the address of a server 2, and so on are stored in the ROM 15 shown in Fig. 3 (see page 17 line 8 - page 18, line 8 of the specification).

First, a difference $a (= D - B)$ between the target longitude (longitude D of the destination SHOP A) and the present longitude

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(longitude B of the current position (ME)) and a difference $b (= C - A)$ between the target latitude (latitude C of the destination SHOP A) and the present latitude (latitude A of the current position (ME)) are calculated (step S19). In the example shown in FIG. 8, when latitude 2 (C) of the target position is 38.57, and latitude 1 (A) of the current position is 37.45, $a = \text{latitude } C - \text{latitude } A = 38.57 - 37.45 = 1.12$ is calculated. Also, when longitude 2 (D) of the target position is 135.54, and longitude 1 (B) of the current position is 135.01, $b = \text{longitude } D - \text{longitude } B = 135.54 - 135.01 = 0.53$ is calculated.

Then, a target bearing $\theta = \arctan (b/a) = \arctan (C - A/D - B)$ and a relative bearing $\Delta\theta = (90 \text{ deg} - \theta_{ms}) - \theta$ are calculated by using a, b calculated in step S19 (step S20). Here, the target bearing θ is a bearing directed from the current position to the target position (where an azimuth angle from the East bearing), the current bearing θ_{ms} is a current azimuth angle of the mobile phone 1 as described above (where an azimuth angle from the North bearing), and the relative bearing $\Delta\theta$ is a difference between the current bearing and the target bearing. In this case, a range in which a magnitude of $\Delta\theta$ is 1 deg or less may be set arbitrarily.

Then, in the decision in step 21, if the relative bearing $\Delta\theta$ calculated previously is a predetermined positive value (where this

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value is assumed as "1") or less, the process goes to step S22 wherein a melody 1 flag is set to "1". In this case, this melody 1 flag is a flag indicating that melody data of a melody 1 should be reproduced and an initial value is set to "0" (see Fig. 6 and page 23, line 4 - page 24, line 4 of the specification).

By this amendment, independent claims 1 and 4 have been amended to recite "a judging unit that judges whether a difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value". Also, independent claims 1 and 4 have been amended to recite "a target capturing unit which produces different sound effects in response to a result of the judging unit".

Similarly, independent claims 6-9 have been amended to recite the step of "judging whether a difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value". Also, independent claims 6-9 have been amended to recite the step of "producing different sound effects in response to a result of said step of judging". These features are not shown or suggested by Shimada, Hoisko and Ihara et al.

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The Examiner admitted that Shimada does not disclose a target bearing calculating unit which calculates a second bearing from a current position to the destination based on the positional information and the specific information and a target capturing unit which produces a sound effect in response to a difference between the first and second bearings (see page 3 of the office action).

Shimada relates to mobile unit navigation and in particular to a mobile unit navigation system and a mobile unit navigation method having a function of learning a differential route between the move route of a mobile unit and the guide route and applying the learned result to the guide route (see page 1, paragraph [0002]).

Shimada discloses that in Fig. 1, reference numeral 10 denotes position detection means for detecting the current position of a mobile unit, reference numeral 20 denotes map information acquisition means for acquiring map information from a storage medium or an external system, reference numeral 30 denotes input means for specifying a destination, reference numeral 40 denotes route search means for searching for a guide route from the current position to the destination based on the map information, and reference numeral 50 denotes output means for displaying the found guide route as an image or guiding the user along the found guide

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route with voice (see page 3, paragraph [0057] of the specification).

Shimada does not disclose "a target bearing calculating unit which calculates a second bearing from a current position to the destination based on the positional information and the predetermined specific information" and "a judging unit that judges whether a difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value" as claimed in claims 1 and 4.

Shimada also does not disclose a target capturing unit which produces different sound effects in response to a result of the judging unit as claimed in claims 1 and 4.

Shimada also does not disclose the steps of calculating a second bearing from the current position to the destination based on the positional information and the specific information, judging whether a difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value as claimed in claims 6-9.

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Shimada also does not disclose the step of producing different sound effects in response to a result of said step of judging as claimed in claims 6-9.

For these reasons, it is believed that Shimada does not show or suggest the present claimed features of the present invention. Applicant also submits that Hoisko does not make up for the deficiencies in Shimada.

Hoisko relates to navigation, and in particular, but not exclusively, to a provision of navigation guidance for a user of a navigation device (see page 1, paragraph [0001]).

Hoisko discloses a navigation system utilizing a tactile actuator such as vibrator. The vibrator is provided to the user so that the user does not need to have visible or audio contact with the navigation aid (see page 2, paragraph [0024]). In addition, the navigation device of Hoisko is used, for instance, in noisy or dark outdoor conditions so that the user might not hear or see the alerts from the navigation device.

Hoisko also discloses that the system compares a target bearing in which a user has to move with a actual bearing in which a user actually moves, judges whether the actual bearing is correct or not, and drives the tactile actuator in response to the judging result.

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Hoisko does not disclose a judging unit that judges whether a difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value as claimed in independent claims 1 and 4.

Hoisko also does not disclose a target capturing unit which produces different sound effects in response to a result of the judging unit as claimed in independent claims 1 and 4.

Also, Hoisko does not disclose the step of judging whether a difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value as claimed in independent claims 6-9.

Also, Hoisko does not disclose the step of producing different sound effects in response to a result of said step of judging as claimed in independent claims 6-9.

Applicant respectfully submits that the system of Hoisko and Shimada are different from the present invention. Specifically, Hoisko judges whether the actual bearing is correct or not, whereas the present invention judges whether the difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value. Since the present invention judges whether the difference is smaller, larger or equal to a predetermined

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value, the user can notice the degree of the deviation from the correct bearing, thereby the user can easily correct their bearing.

Applicant also respectfully submits that Hoisko teaches away from a combination with Shimada because Hoisko teaches that the stimulus is provided to the user so that the user does not need to have any visible or audio contact with the navigation aid (see page 2, paragraph [0024]). In addition, the navigation device of Hoisko is typically used in noisy or dark outdoor conditions where the user might not hear or see the alerts from the navigation device. Therefore, the use of vibrators in the navigation device of Hoisko teaches away from combining them in a displaying unit such as Shimada.

For these reasons, it is believed that Shimada and Hoisko do not show or suggest the present claimed features of the present invention.

Applicant also submits that Ihara et al. do not make up for the deficiencies in Shimada and Hoisko.

Ihara et al. relate to a navigation system for inducing and guiding a route from a starting point to an object point, and more particularly, a vehicle position detecting apparatus for precisely obtaining the present position of a moving body such as

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motorcar or the like running on roads (see column 1, lines 11-16).

Ihara et al. disclose that the navigation system includes a bearing sensor 101, a distance sensor 102, a present position estimating means 103, a map storing means 104, a map range selecting means 105, a map match computing means 106, and an output means 107 as shown in Fig. 1.

Ihara et al. do not disclose a judging unit that judges whether a difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value as claimed in independent claims 1 and 4.

Ihara et al. do not disclose a target capturing unit which produces different sound effects in response to a result of the judging unit as claimed in independent claims 1 and 4.

Also, Ihara et al. do not disclose the step of judging whether a difference between the first bearing and the second bearing is less than or greater than a predetermined value, or is equal to the predetermined value as claimed in independent claims 6-9.

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Also, Ihara et al. do disclose the step of producing different sound effects in response to a result of said step of judging as claimed in independent claims 6-9.

It is therefore respectfully submitted that Shimada, Hoisko, Ihara et al., individually or in combination, do not teach, disclose or suggest the presently claimed invention and it would not have been obvious to one of ordinary skill in the art to combine these references to render the present claims obvious.

Shimada, Hoisko, and Ihara et al. also do not disclose many features of dependent claims 2-3, 5, 10-13, 15 and 17-18.

For example, Shimada, Hoisko, and Ihara et al. do not disclose that the target capturing unit produces different melodies in response to the result of the judging unit as claimed in claims 2 and 5.

Also, Shimada, Hoisko, and Ihara et al. do not disclose that the position information of the current position is indicated by a latitude A of the current position and a longitude B of the current position, and the predetermined specific information to identify a destination is indicated by a latitude C of the destination and a longitude D of the destination; and wherein the second bearing is calculated by a formula: $\theta = \arctan$ (the

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latitude C - the latitude A)/(the longitude D - the longitude B)
as claimed in claims 17 and 18.


Therefore, allowance of these dependent claims is also
respectfully requested.

In view of foregoing claim amendments and remarks, it is
respectfully submitted that the application is now in condition for
allowance and an action to this effect is respectfully requested.

If there are any questions or concerns regarding the
amendments or these remarks, the Examiner is requested to
telephone the undersigned at the telephone number listed below.

Respectfully submitted,

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